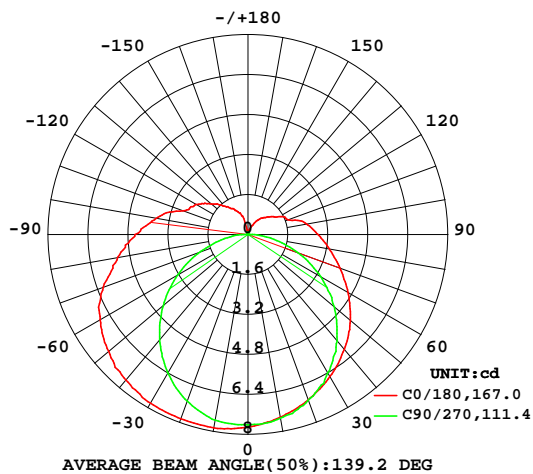


LUMINAIRE PHOTOMETRIC TEST REPORT

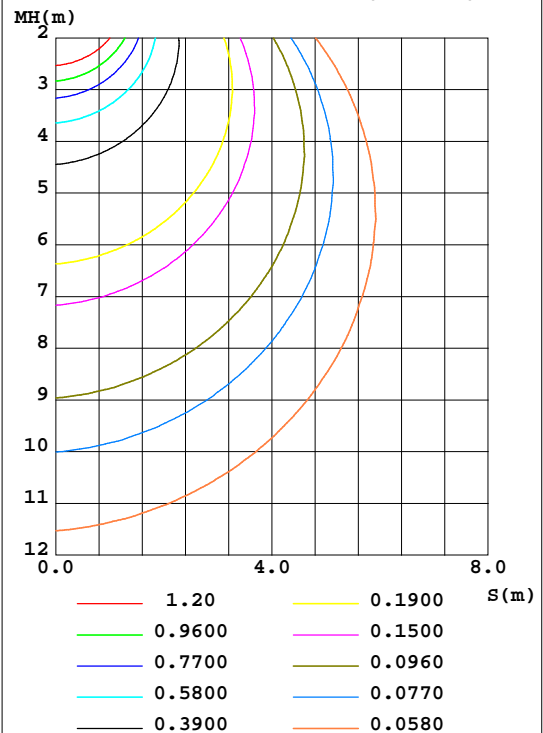
Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 4.23 lm/W
MODEL	NNS1224	I _{max} (cd)	7.854	S/MH(C0/180)	1.53	
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	1.25	
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	35.106	h UP,DN(C0-180)	6.9,37.0	
NOMINAL FLUX(lm)	35.1056	CIE CLASS	SEMI-D.	h UP,DN(C180-360)	11.2,44.9	
LAMPS INSIDE	1	h up(%)	18.0	CIBSE SHR NOM	1.50	
TEST VOLTAGE(V)	24	h down(%)	82.0	CIBSE SHR MAX	1.50	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-06-28

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

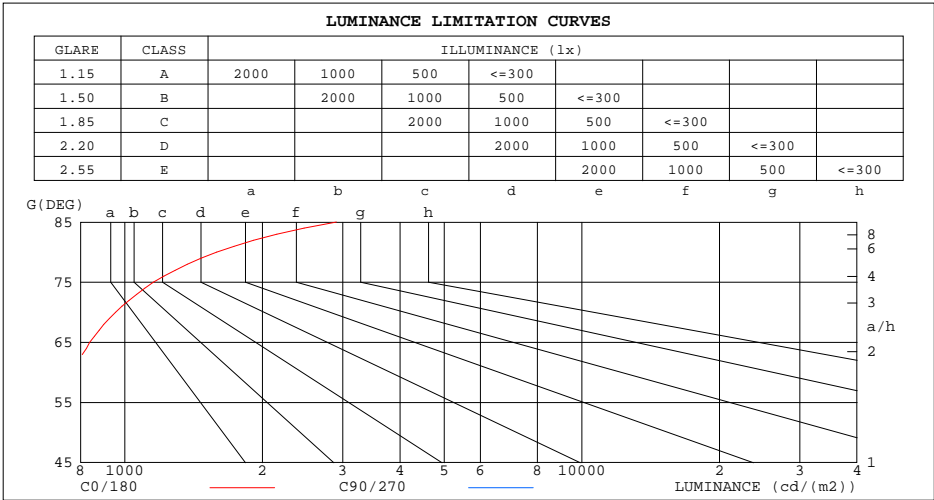
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	7.424	7.465	7.853	7.539					0~ 10	0.7274	0.7274	2.07,2.07
20	7.049	7.062	7.848	7.108					10~ 20	2.103	2.830	8.06,8.06
30	6.561	6.398	7.801	6.407					20~ 30	3.254	6.084	17.3,17.3
40	6.001	5.559	7.603	5.499					30~ 40	4.068	10.15	28.9,28.9
50	5.357	4.512	7.274	4.424					40~ 50	4.474	14.63	41.7,41.7
60	4.618	3.358	6.829	3.253					50~ 60	4.444	19.07	54.3,54.3
70	3.915	2.116	6.158	2.018					60~ 70	4.011	23.08	65.7,65.7
80	3.311	0.9520	5.302	0.9418					70~ 80	3.239	26.32	75,75
90	2.807	0.1863	4.530	0.2641					80~ 90	2.452	28.77	82,82
100	2.396	0.0195	3.752	0.0129					90~100	1.874	30.65	87.3,87.3
110	1.727	0.0388	2.787	0.0129					100~110	1.450	32.10	91.4,91.4
120	1.443	0.0515	2.425	0.0129					110~120	1.051	33.15	94.4,94.4
130	1.101	0.0708	1.905	0.0321					120~130	0.7861	33.93	96.7,96.7
140	0.8569	0.0874	1.500	0.0964					130~140	0.5505	34.48	98.2,98.2
150	0.5605	0.0966	1.203	0.0984					140~150	0.3542	34.84	99.2,99.2
160	0.2578	0.0966	0.9258	0.0966					150~160	0.1898	35.03	99.8,99.8
170	0.1130	0.0966	0.1674	0.0901					160~170	0.0677	35.10	100,100
180	0.0966	0.0966	0.1030	0.0901					170~180	0.0102	35.11	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDNO12CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2906	478
80	1589	457
75	1155	487
70	954	516
65	838	540
60	770	560
55	724	569
50	694	585
45	670	592

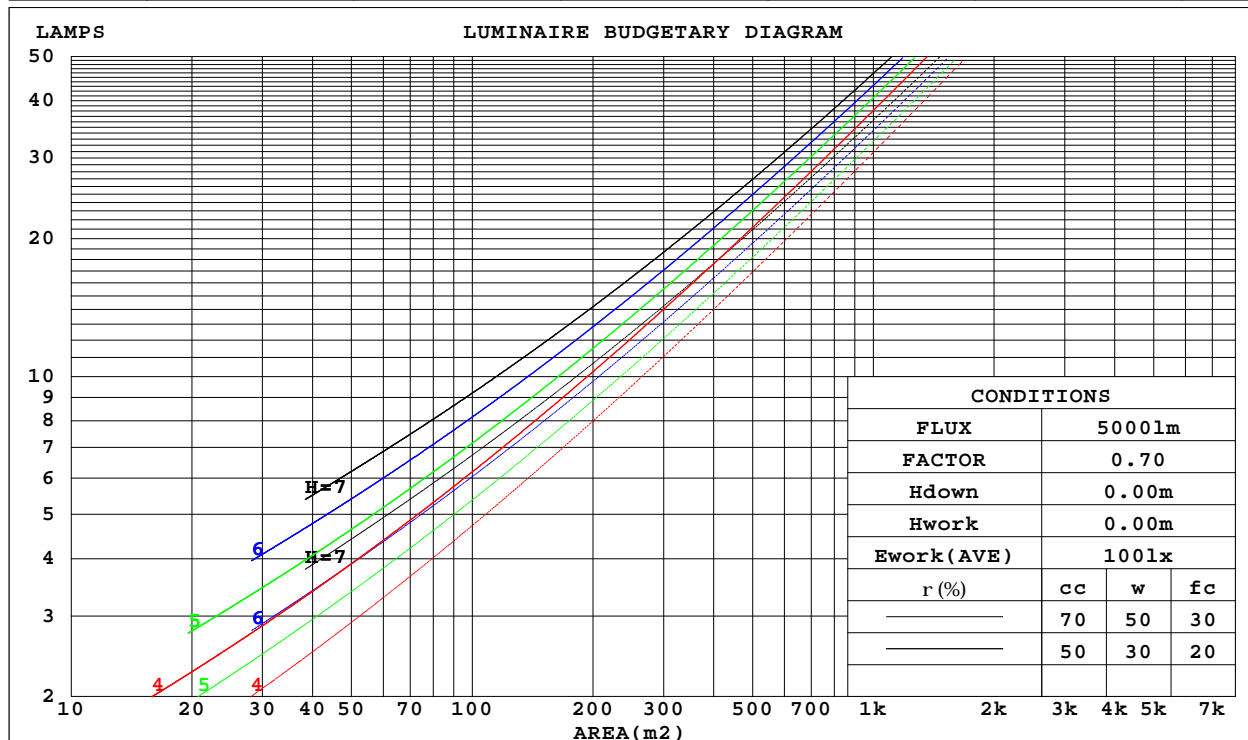
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.15	1.15	1.15	1.10	1.10	1.10	1.01	1.01	1.01	.93	.93	.93	.85	.85	.85	.82
1.0	.96	.91	.86	.92	.87	.83	.84	.80	.77	.77	.74	.71	.71	.68	.66	.63
2.0	.82	.74	.68	.79	.72	.66	.72	.66	.61	.66	.61	.57	.60	.57	.53	.50
3.0	.71	.62	.55	.68	.60	.53	.63	.56	.50	.57	.52	.47	.53	.48	.44	.41
4.0	.63	.53	.46	.60	.51	.45	.55	.48	.42	.51	.45	.40	.46	.41	.37	.34
5.0	.55	.46	.39	.53	.44	.38	.49	.42	.36	.45	.39	.34	.41	.36	.32	.29
6.0	.50	.40	.34	.48	.39	.33	.44	.37	.31	.41	.34	.29	.37	.32	.28	.25
7.0	.45	.36	.29	.43	.35	.29	.40	.33	.27	.37	.31	.26	.34	.29	.24	.22
8.0	.41	.32	.26	.39	.31	.25	.36	.29	.24	.34	.27	.23	.31	.26	.22	.20
9.0	.37	.29	.23	.36	.28	.23	.33	.26	.22	.31	.25	.21	.29	.23	.19	.17
10.0	.34	.26	.21	.33	.25	.20	.31	.24	.19	.29	.23	.19	.27	.21	.18	.16



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0														
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0														
r _{fc}	20%			20%			20%			20%			20%			0														
RCR	RCR:Room Cavity Ratio															Wall Exitance Coefficients(WEC)														
0.0																														
1.0	.379	.216	.068	.366	.209	.066	.343	.197	.063	.321	.185	.059	.301	.174	.056															
2.0	.330	.181	.055	.319	.175	.054	.297	.165	.051	.277	.156	.049	.259	.146	.046															
3.0	.294	.157	.047	.284	.152	.046	.264	.143	.044	.246	.135	.041	.230	.127	.039															
4.0	.265	.138	.041	.256	.134	.040	.238	.126	.038	.222	.119	.036	.207	.112	.034															
5.0	.241	.123	.036	.233	.120	.035	.217	.113	.033	.202	.107	.032	.188	.100	.030															
6.0	.221	.111	.032	.214	.108	.031	.199	.102	.030	.185	.096	.028	.173	.091	.027															
7.0	.204	.101	.029	.197	.098	.028	.184	.093	.027	.171	.088	.026	.160	.083	.024															
8.0	.189	.093	.026	.183	.090	.025	.171	.085	.024	.159	.081	.023	.148	.076	.022															
9.0	.177	.085	.024	.171	.083	.023	.159	.079	.022	.149	.075	.021	.139	.070	.020															
10.0	.165	.079	.022	.160	.077	.022	.149	.073	.021	.140	.069	.020	.130	.066	.019															

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
R _{CR}	R _{CR} :Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.328	.328	.328	.280	.280	.280	.191	.191	.191	.110	.110	.110	.035	.035	.035	
1.0	.324	.294	.267	.277	.252	.230	.189	.174	.159	.109	.100	.093	.035	.032	.030	
2.0	.317	.271	.233	.271	.233	.201	.186	.162	.140	.107	.094	.082	.034	.030	.027	
3.0	.309	.255	.211	.265	.220	.183	.182	.153	.128	.105	.089	.076	.034	.029	.025	
4.0	.302	.242	.197	.259	.209	.171	.178	.146	.120	.103	.085	.071	.033	.028	.023	
5.0	.294	.232	.187	.253	.201	.163	.174	.140	.115	.101	.082	.068	.032	.027	.022	
6.0	.287	.224	.180	.246	.194	.157	.170	.136	.111	.099	.080	.066	.032	.026	.022	
7.0	.280	.218	.175	.241	.189	.152	.166	.132	.108	.097	.078	.064	.031	.026	.021	
8.0	.273	.212	.171	.235	.184	.149	.163	.129	.106	.095	.076	.063	.031	.025	.021	
9.0	.267	.208	.168	.230	.180	.146	.159	.127	.104	.093	.075	.062	.030	.025	.021	
10.0	.261	.203	.165	.225	.177	.144	.156	.124	.102	.091	.073	.061	.030	.024	.020	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm											
NAME: NNS1224					TYPE:			WEIGHT:			
SPEC.:NNS1224-0B24CDN012CC0100					DIM.: 1000*12*24mm			SERIAL No.:			
MFR.: Colors					SUR.:1000*12			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions	Viewed crosswise					Viewed endwise					
x = 2H y = 2H	22.1	23.5	22.6	24.0	24.5	21.0	22.3	21.5	22.8	23.4	
	3H	24.5	25.8	25.1	26.3	26.9	22.6	23.8	23.1	24.4	25.0
	4H	25.9	27.1	26.4	27.6	28.3	23.2	24.4	23.8	25.0	25.6
	6H	27.4	28.6	28.0	29.1	29.8	23.7	24.9	24.3	25.4	26.1
	8H	28.3	29.4	28.9	30.0	30.7	23.9	25.0	24.5	25.6	26.3
	12H	29.3	30.4	29.9	31.0	31.7	24.1	25.1	24.7	25.7	26.4
4H	2H	22.6	23.8	23.2	24.4	25.0	21.8	23.0	22.4	23.6	24.2
	3H	25.3	26.3	25.9	26.9	27.6	23.7	24.7	24.3	25.3	26.0
	4H	26.8	27.8	27.4	28.4	29.1	24.5	25.5	25.1	26.1	26.8
	6H	28.5	29.4	29.2	30.0	30.8	25.2	26.1	25.8	26.7	27.4
	8H	29.5	30.3	30.2	31.0	31.8	25.5	26.3	26.1	26.9	27.7
	12H	30.7	31.5	31.4	32.1	32.9	25.7	26.4	26.4	27.1	27.9
8H	4H	27.1	27.9	27.8	28.6	29.3	25.2	26.0	25.8	26.6	27.4
	6H	29.1	29.8	29.8	30.5	31.3	26.2	26.9	26.9	27.6	28.4
	8H	30.3	30.9	31.0	31.6	32.4	26.7	27.3	27.4	28.0	28.8
	12H	31.7	32.2	32.4	33.0	33.8	27.1	27.6	27.8	28.3	29.2
12H	4H	27.1	27.9	27.8	28.5	29.3	25.4	26.1	26.1	26.8	27.6
	6H	29.2	29.8	29.9	30.5	31.3	26.6	27.2	27.3	27.9	28.7
	8H	30.5	31.0	31.2	31.7	32.6	27.2	27.7	27.9	28.4	29.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5					

CIE Pub.117, 35.11 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -11.6)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

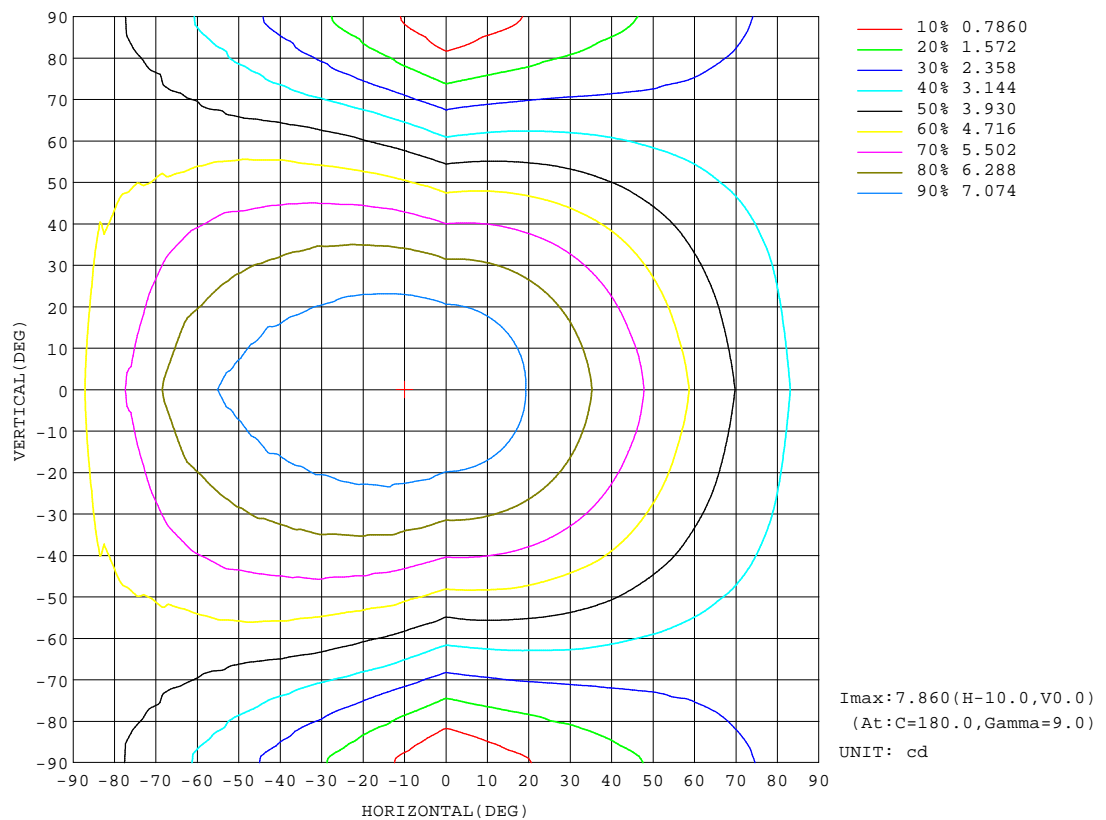
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	28	47	35	28	45	34	28	21
0.80	57	44	36	56	43	36	53	42	35	27
1.00	65	52	44	63	51	43	59	51	42	33
1.25	72	59	51	69	58	50	65	55	48	39
1.50	77	65	56	74	63	55	69	60	53	43
2.00	84	73	65	81	71	64	75	67	61	49
2.50	89	79	71	85	76	69	79	72	66	53
3.00	92	83	76	89	81	74	82	75	70	57
4.00	97	89	83	93	86	80	86	80	76	61
5.00	100	93	88	96	90	85	89	84	79	64
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

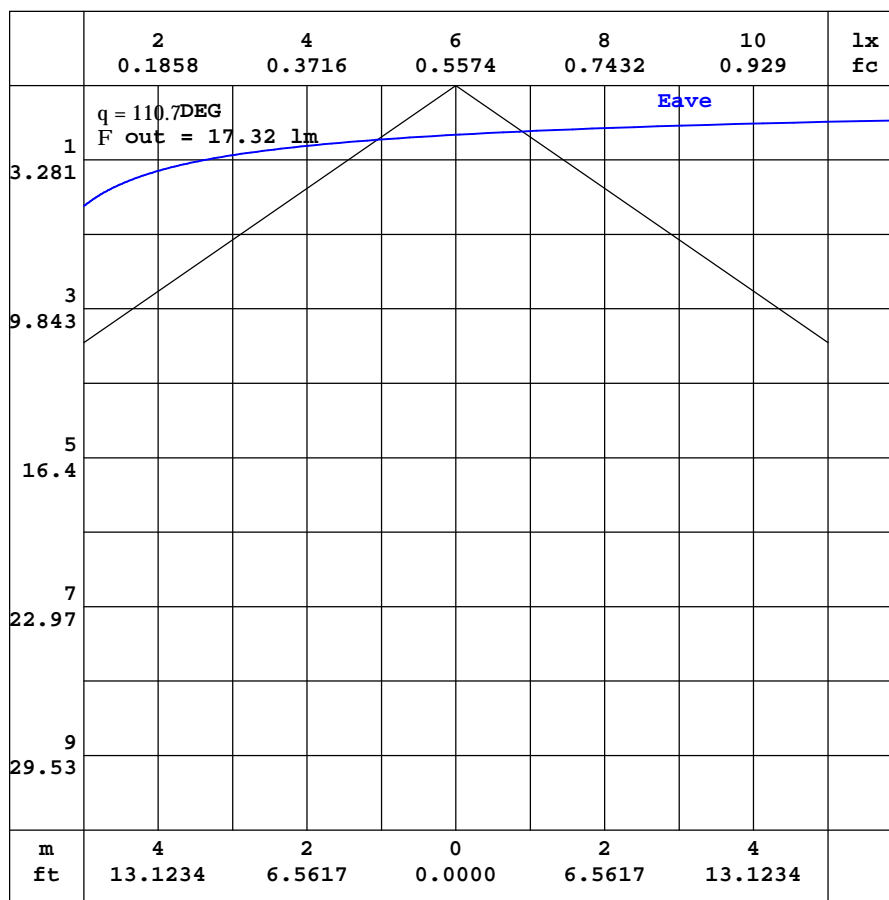


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

deg Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

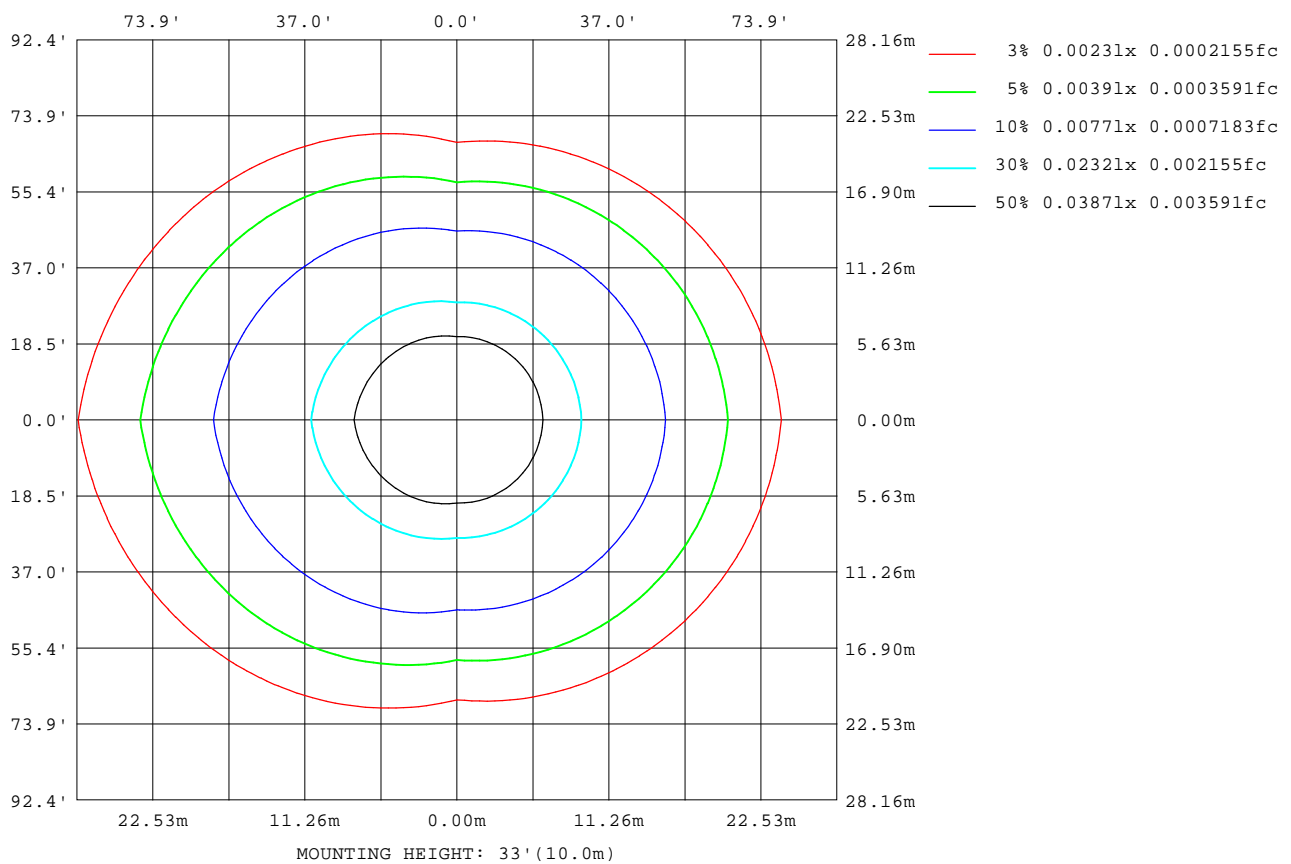
AAI CURVES

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



ISOLUX DIAGRAM

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

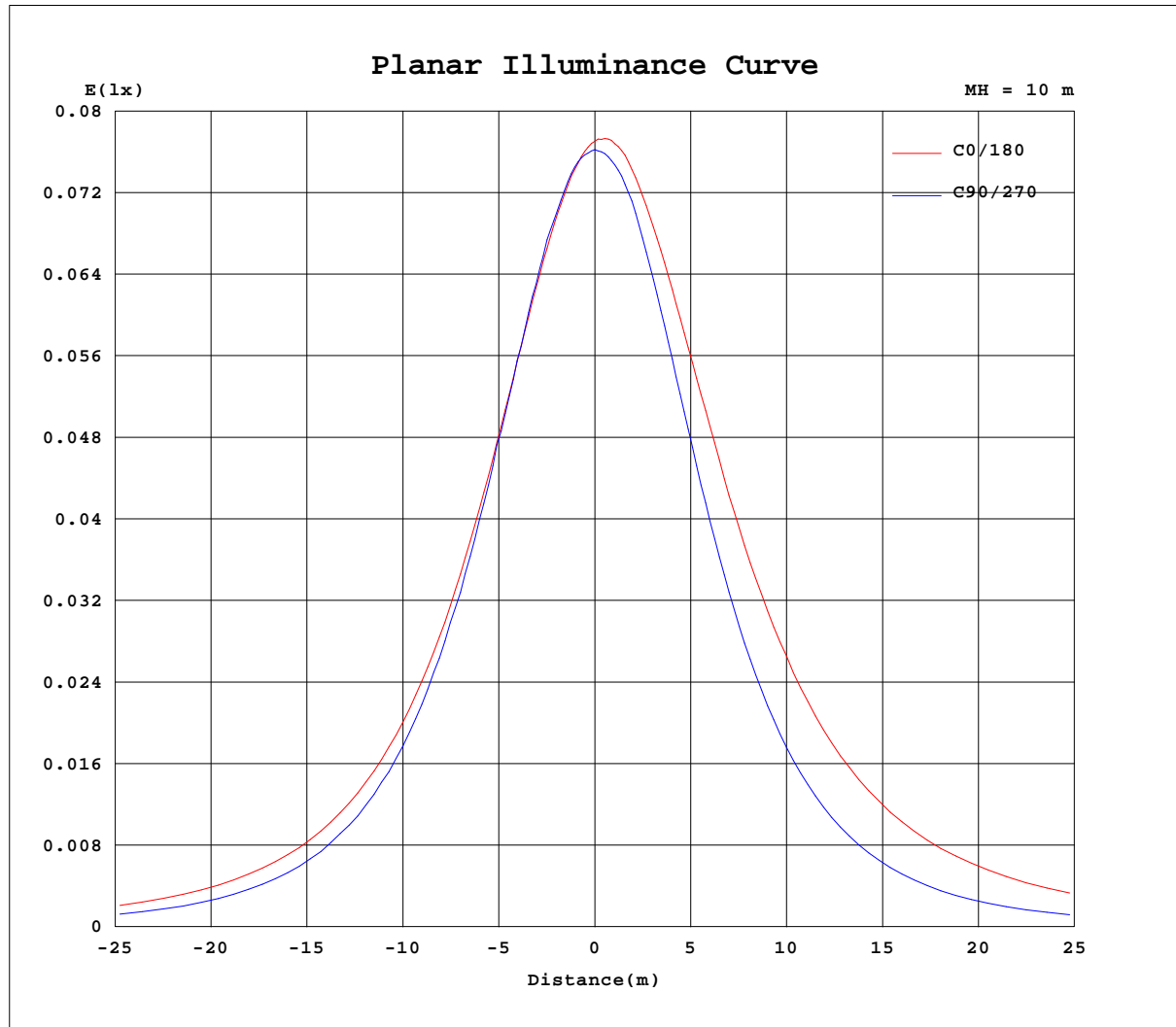
AvgL	cd/m2
L_0~180(65)av	1066
L_0~180(75)av	1489
L_0~180(85)av	3809
L_90~270(65)av	532
L_90~270(75)av	474
L_90~270(85)av	501
L_45(65)av	746
L_45(75)av	875
L_45(85)av	1798

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-06-28

deg Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.3490A P:8.300W PF:1.000 Freq:0Hz Lamp Flux:35.1056x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-0B24CDN012CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	7.71	7.62	7.71	7.62															
5	7.58	7.59	7.80	7.60															
10	7.42	7.46	7.85	7.54															
15	7.25	7.31	7.85	7.35															
20	7.05	7.06	7.85	7.11															
25	6.82	6.76	7.83	6.79															
30	6.56	6.40	7.80	6.41															
35	6.30	5.97	7.70	5.98															
40	6.00	5.56	7.60	5.50															
45	5.69	5.03	7.52	4.99															
50	5.36	4.51	7.27	4.42															
55	4.98	3.92	7.08	3.85															
60	4.62	3.36	6.83	3.25															
65	4.25	2.74	6.56	2.65															
70	3.92	2.12	6.16	2.02															
75	3.59	1.51	5.66	1.43															
80	3.31	0.95	5.30	0.94															
85	3.04	0.50	4.93	0.55															
90	2.81	0.19	4.53	0.26															
95	2.60	0.01	4.10	0.03															
100	2.40	0.02	3.75	0.01															
105	2.16	0.03	3.38	0.01															
110	1.73	0.04	2.79	0.01															
115	1.64	0.05	2.57	0.01															
120	1.44	0.05	2.43	0.01															
125	1.26	0.06	2.16	0.01															
130	1.10	0.07	1.90	0.03															
135	0.97	0.08	1.74	0.08															
140	0.86	0.09	1.50	0.10															
145	0.72	0.10	1.32	0.10															
150	0.56	0.10	1.20	0.10															
155	0.39	0.10	1.02	0.10															
160	0.26	0.10	0.93	0.10															
165	0.15	0.10	0.68	0.09															
170	0.11	0.10	0.17	0.09															
175	0.10	0.10	0.12	0.09															
180	0.10	0.10	0.10	0.09															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-06-28

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks: